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AB BACKGROUND: **Atrophic vaginitis** is a common condition. This study compared the usefulness of **estradiol** vaginal tablets (EVT) and estriol vagitories (EV) in treatment of **atrophic vaginitis**. METHODS: Ninety-six postmenopausal women with symptoms of **atrophic vaginitis** were treated for 24 weeks with either EVT or with EV. Patients used the medication daily for the first 2 weeks of the study, and twice-weekly thereafter. RESULTS: Both EVT and EV were effective in treating vaginal atrophy and patients in both treatment groups experienced a significant improvement in vaginal symptoms such as itching, irritation, dryness, and dyspareunia. At the end of the study three (6%) EVT treated women reported leakage and none needed to use sanitary towels. Among the EV treated women 31 (65%) reported leakage and 14 (29%) required sanitary protection. Furthermore, 90% in the EVT group perceived the medication as hygienic compared to 79% in the EV group, and 49% in the EVT group indicated that the product was easy to use compared to 28% in the EV group. Endometrial thickness was increased (1.1 mm with EVT and 0.5 mm on EV) in both treatment groups during the first 2 weeks of the study, but returned to baseline levels when the frequency of drug application was reduced to twice-weekly. CONCLUSIONS: **Estradiol** vaginal tablets provides an effective alternative to traditional forms of local **estrogen** therap

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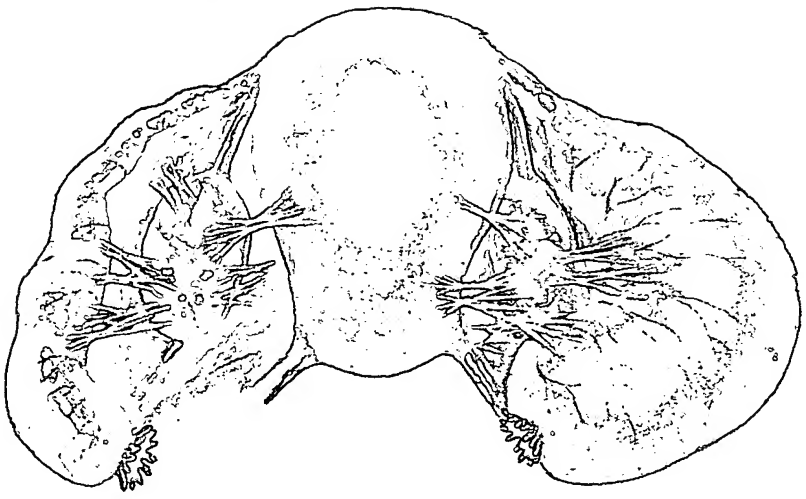
AB **Estrogen** receptors and progesterone receptors were detected and quantified in female pelvic floor muscles, urogenital ligaments and in uterus (myometrium) by use of monoclonal antibody assay techniques. Qualitative assessment with immunohistochemical methods further localized the **estrogen** receptors and progesterone receptors to the nuclei of connective tissue cells and striated muscle cells in the levator ani muscle, and to the cell nuclei of smooth muscle cells in the round ligament. These findings fulfil a prerequisite for viewing the pelvic floor and the round ligament as target organs for **estrogens**. The results also contribute to the understanding of the etiological role the reduction in **estrogen** levels has on the increased incidence of prolapse and urinary incontinence after the menopause. For treatment of urogenital mucosal atrophy a new vaginal silicone ring releasing 5-10 micrograms **estradiol**/24 h for a minimum of 90 days has been developed. The efficacy, safety and acceptability of the ring were studied in 222 postmenopausal women with symptoms and signs of atrophic vaginal mucosa. The maturation of the vaginal epithelium, as measured by cytological parameters, was significantly improved during treatment. There were significant decreases in vaginal pH, and these changes correlated well with the cytological evaluation. No proliferation of the endometrium was encountered. The therapy had a significant effect on symptoms and on signs of **atrophic vaginitis**, with cure/improvement registered in > or = 90%. The patient acceptability was high. It is concluded that a vaginal silicone ring giving a continuous release of an ultra-low dose of **estradiol** is an effective and safe treatment for urogenital **estrogen** deficiency. No addition of progestogen is needed.



Advanced Pyosalpinx

FIG. 20-4. Salpingitis. (From Seidel, Ball, Dains, & Benedict, 1987.)

A lower genital infection, such as vaginitis, may be present for some time before PID develops. The first sign of the ascending infection may be the onset of low bilateral abdominal pain, most often characterized as dull and gradual in onset. If the PID is caused by *Neisseria gonorrhoeae* (a sexually transmitted bacterium), the pain is often associated with menstrual bleeding. The pain of PID may worsen with intercourse. Other manifestations of PID include dysuria (difficult or painful urination) and vaginal discharge.

PID can lead to serious complications, including infertility. Infection that involves the entire peritoneal cavity can cause ileus (paralysis of the bowel). The mortality rate associated with PID is 8% to 9% of cases. Most deaths resulting from PID are caused by septic shock (cardiovascular shock brought on by infection of the blood; see Chapter 29).

Evaluation and Treatment

PID is difficult to diagnose on the basis of symptoms alone. Laparoscopy or culdocentesis and cultures may be necessary for a definitive diagnosis. Treatment involves rest, avoidance of intercourse, and administration of antibiotics. Common antibiotics used include penicillin G or ampicillin with probenecid followed by tetracycline or doxycycline plus cefoxitin. It it not known which antibiotics or combinations are most effective in preventing long-term complications, such as infertility. From 25% to 40% of women require hospitalization for IV administration of antibiotics; pelvic drainage; peritoneal lavage, and abscess drainage.

Vaginitis

Vaginitis is infection of the vagina. The major causes of vaginitis are sexually transmitted pathogens (see Chapter 21) and *Candida albicans*. The incider ually transmitted vaginitis is highest in youn Susceptibility to vaginitis increases after m however, because defense mechanisms mediate ian hormones are somewhat compromised.

The development of vaginal infection is rel terations in normal defense mechanisms of t particularly the vaginal pH and histologic char of the vaginal epithelium. The pH of the vag according to age and reproductive status, estr els, and specific area of the vagina. Prior to pu vaginal pH is neutral. After puberty the pH f tween 4.0 and 5.0. Variations in pH are associ cyclic changes in estrogen levels: pH is lowe the luteal phase of the menstrual cycle (betwe tion and the beginning of menstruation). Aft pause pH rises to neutral or even alkaline valu nal pH is lowest near the cervix. Vaginal pH portant regulator of bacterial growth: pH of 4 to 4.9 will not support the growth of most pa bacteria. Therefore, variables that alter the va such as estrogen levels or even douching, can c to the onset of an infectious process.

The composition and thickness of the vagina lium also determine defense capabilities. The t nal epithelium that forms during pregnancy c most resistance to bacterial invasion and is bes maintain an acidic pH. Premenarchal and p pausal females have the thin vaginal epitheliur ated with low estrogen levels. A thin vaginal epi is a less effective barrier to invasion by infectiou and is less able to maintain an acidic pH.

The use of antibiotics may destroy *Lactobacill philus,* an anaerobic, gram-positive rod normall in the vagina that helps to maintain an acidic pH